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ORIGINAL PAPER

Differences in psychotropic drug prescriptions among ethnic groups in the Netherlands

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Abstract
Background Psychotropic drug use in Europe and the USA has increased in the past 20 years. The rise in mental health-care use instigated a debate about possible differences in prevalence rates between different ethnic groups in the Netherlands, although the exact differences were unknown. The aim of this study was to determine whether these minority groups were more or less likely than the native population to receive psychotropic drugs.
Methods A descriptive population study was conducted using the Agis Health Database, containing demographic and health-care consumption data of approximately 1.5 million inhabitants of the Netherlands. Rates of prescriptions of psychotropic drugs from 2001 to 2006 and adjusted odds ratios for psychotropic drug prescriptions among native Dutch, Turkish and Moroccan ethnic groups were calculated. These data were analysed using logistic regression, after being adjusted for age, gender and socioeconomic status.
Results The mean year prevalence of psychotropic drug prescriptions from 2001 to 2006 was 14.0%. Except for a decrease in anxiolytic drugs, the prescriptions of psychotropic drugs increased from 2001 to 2006. These trends were the same for all of the ethnic groups considered. Among both the Moroccan and Turkish populations, there was a higher risk of antidepressant and antipsychotic drug prescriptions, and a pronounced lower risk of ADHD medication and lithium prescriptions compared to the native population. Among the Turkish population, the risk of anxiolytic drug prescriptions was greater than in the native population.
Conclusions Compared to the native population in the Netherlands, first- and second-generation Turkish and Moroccan immigrants had an increased risk of antidepressant and antipsychotic drug prescriptions and a decreased risk of ADHD medication and Lithium prescriptions. Further research is needed to clarify whether patients of different ethnic backgrounds with the same symptoms receive similar diagnosis and adequate treatment.

Keywords Turkish · Moroccan · Prevalence · Psychotropic drugs · Netherlands

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Introduction

With the availability of specific psychotropic drugs, mental health treatment in primary care has been more accepted. In Europe and the USA, the prevalence of psychotropic drug use has increased in the last 20 years [2, 8]. In the Netherlands, the number of patients who were prescribed psychotropic drugs was recently estimated to be up to 7.4% of the total population per year [1]. In 52% of the cases, psychotropic drugs were prescribed by general practitioners (GPs) [9]. The type of prescribed psychotropic drugs can be used as a proxy indicator to estimate the prevalence of different mental disorders.

Following the increase of mental disorders, the prevalence of distribution among different ethnic immigrant groups was also considered. Harrison et al. found an increased incidence of schizophrenia in immigrants from the African Caribbean in the UK [6]. After this publication, several studies on differences in the prevalence and incidence rates among immigrants in western Europe followed. The two large immigrant groups in western Europe are Turks and Moroccans, who immigrated to the Netherlands, Belgium, Germany and France in the 1960s and 1970s of the twentieth century, when an excess of jobs in these countries invited immigration.

Since the start of the Turkish and Moroccan immigration, the composition of ethnic groups in the Netherlands has shifted. Nowadays, the growth of the native Dutch population has almost stopped (<0.1%), while the non-Western population in the Netherlands increases by 1.2% each year. The Turkish and Moroccan communities now represent, respectively, 2.2 and 2.0% of the total population of over 16 million people [17]. The proportional growth of the Turkish and Moroccan minority groups emphasizes the need for more accurate knowledge of prevalence rates and treatment of mental disorders in these groups.

Belgian and Dutch studies on differences in prevalence and incidence rates show an increased risk of depressive symptoms in Moroccan and Turkish immigrants [7, 23], an increased risk of manic-depressive psychosis in Moroccan and Turkish men and a decreased risk of manic-depressive psychosis in Moroccan and Turkish women [12]. The risk of anxiety symptoms in Moroccan and Turkish immigrants was heightened [7]. An increased risk of schizophrenia in (male) Moroccan immigrants was found; the risk of Turkish immigrants for schizophrenia were equal [3, 5, 10, 13–15] or enhanced compared to the native population [21]. These studies, however, mostly investigated specific psychiatric disorders and often included only patients receiving specialized care in specific parts of the Netherlands, such as larger cities. Since in the Netherlands, 86% of the total mental disorders are diagnosed and treated by GPs [9] and the Turkish and Moroccan ethnic groups do not exclusively live in the largest cities of the country, these results are expected to contain some bias.

Because it was established that the prevalence of some psychiatric disorders was higher in the Moroccan and Turkish ethnic groups, the aim of this study was to determine whether these minority groups received more psychotropic drugs, or less.

A large population study on the differences in the prevalence of psychotropic drug prescriptions for mental health disorders among minority groups in the Netherlands in ambulant care was conducted. The evaluation of psychotropic drugs over a 6-year period from 2001 to 2006 is presented in this study.

Methods

Data

The data used were taken from the Agis Health Database. Agis is a major health insurance company in the centre of the Netherlands. The Agis database contains the demographic and health-care consumption data of approximately 1.5 million inhabitants. The Agis Health Database has an accurate registration of all pharmaceutical prescriptions. Inhabitants of the Netherlands are obliged by law to get medical insurance. All psychotropic drugs are those which are available only on doctor's prescription. Almost every inhabitant has a GP, who is the gatekeeper to secondary care, including mental health care. Both GPs and psychiatrists prescribe psychotropic drugs. All prescriptions by GPs and psychiatrists must be registered electronically in this database before costs are reimbursed by the health insurance company. All insured patients from 1 January 2001 to 31 December 2006 living in the cities of Amsterdam, Utrecht, Amersfoort, Apeldoorn and surrounding (rural) areas were included. Ethical approval for the study was not required, since the data were routinely collected and anonymous.

Ethnicity

While the Agis Health Database does not register ethnicity, it does register foreign nationality. Therefore, the first-generation Moroccan and Turkish immigrants were registered with their nationality and were therefore easily categorized. By matching the surnames of the selected Moroccan and Turkish immigrants with the remaining subjects in the database, the second- and third-generation immigrants could be selected as well. Ethnic groups were defined as: "Turkish", "Moroccan" and "native". The "native" group consisted of subjects of Dutch and Western nationalities (98.7%) and other non-Western nationalities (1.3%).

Psychotropic drugs

Prescriptions for psychotropic drugs to these patients were extracted according to the Anatomical Therapeutic Chemical (ATC) classification system codes. All prescribed drugs with ATC codes starting with N05A (antipsychotic drugs), N05B (anxiolytic drugs) and N06A (antidepressant drugs), and ATC codes N06BA04 (methylphenidate), N06BA09 (atomoxetine; ADHD medicine) and N05AN01 (lithium) were included.

Where an individual received more than one prescription in a year, the individual was represented only once that year. When the individual received prescriptions of more

than one subgroup, the individual was represented in both subgroups. Such an individual was represented only once in the prevalence rate of the "psychotropic drugs" category.

Covariates

The following data were obtained of each insured person: age, gender, mean income and urbanization grade of the living area as a proxy of socioeconomic status. The postal code was used to derive the grade of urbanization and mean income per person, as defined and registered by Statistics Netherlands (CBS) [17]. Since the incomes were normally distributed, the population was divided into three groups: low income (below one standard deviation from the mean); middle income (between one standard deviation below the mean and one standard deviation above the mean); high income (above one standard deviation from the mean). A few neighbourhoods with missing CBS income data were given the mean income value. All prescribed drugs with ATC codes starting with N05A "antipsychotic drugs", N05B "anxiolytic drugs", N06A "antidepressant drugs" and ATC codes N06BA04, atomoxetine, N06BA09, methylphenidate ("ADHD medicine:) and N05AN01, "lithium", were included.

Analyses

The prevalence of total psychotropic drug prescriptions, as well as the prevalence of the prescriptions of drugs of subgroups of psychotropic drugs, were calculated for every year from 2001 to 2006. A logistic regression analysis was used to calculate the crude and adjusted odds ratios of psychotropic drug prescriptions in the different minority groups in 2006. A separate logistic regression analysis was performed for each drug group. The analysis was performed using the native group as a reference category and including the following covariates: age, sex, grade of urbanization and mean income. Additional logistic regression analyses were done for each age group, per different drug group. SPSS version 14.0.1 was used for the analyses.

Results

A total number of 1,220,338 medically insured subjects were included, varying between 852,213 and 1,024,627 insured subjects per year. In 2006, 12.2% of the subjects belonged to the Moroccan group, 7.2% to the Turkish group and 80.6% to the native Dutch group. In 2006, the Turkish and Moroccan groups were significantly younger, had a lower income and lived in more urbanized areas in the Netherlands compared with the native Dutch group (Table 1).

As shown in Table 2, from 2001 to 2006, there was an increase in the prevalence of prescription of antipsychotics, antidepressants, ADHD medications and lithium. The prevalence of anxiolytic drug prescriptions decreased; however, the mean year prevalence of psychotropic drug prescriptions from 2001 to 2006 was 14.0%. These prescription trends were similar in all minority groups (Fig. 1).

After multivariate adjustment (Table 3), a slightly higher risk of antipsychotic drug prescriptions was seen among the Moroccan and Turkish populations compared to the native Dutch population. The risk of anxiolytic drug prescriptions among the Turkish population was also somewhat higher. The Moroccan population, on the other hand, had a lower risk of anxiolytic drug prescriptions than the native Dutch population. There was a higher risk of antidepressant drug prescriptions among the Moroccan and Turkish populations in the Netherlands compared with the native Dutch population (Table 3). Among the Turkish population aged 40–59, the odds ratio was even higher [2.15 (95%CI 2.05–2.25], compared to the Dutch population of the same age group. The risk of ADHD medication prescriptions was markedly lower for the Moroccan and Turkish populations than the native Dutch population. The risk of receiving lithium prescriptions was also much lower for the Moroccan and Turkish populations than the native Dutch population (Table 3). The selected covariates were of great influence on all odds ratios. In the Turkish ethnic group, for example, the crude odds ratio for anxiolytic drugs prescriptions was 0.75, but after adjustment for age, sex, grade of urbanization and income, the odds ratio became 1.27.

The variable interfering most with ethnicity was age, followed by gender, income and finally urbanization. The risk of psychotropic drug prescriptions was especially increased among the Turkish population aged 40–59 years, compared with the native population of the same age group, with an adjusted odds ratio of 1.63 (95%CI 1.57–1.70). Children aged 0–17 of both Moroccan and the Turkish ethnic groups had a lower risk of psychotropic drugs prescriptions compared to children of the same age of the Dutch ethnic group, with odds ratios of 0.42 (95%CI 0.37–0.48) and 0.42 (95%CI 0.36–0.49), respectively. Except for anxiolytic drugs, this difference was found with regard to all psychotropic drugs among this age group.

Discussion

In this study, evidence was obtained on differences in the prescriptions of psychotropic drugs among different

Table 1 Characteristics of the different ethnic groups

	Moroccan ethnicity	Turkish ethnicity	Native ethnicity	Total
Year [*n* (%)]				
2001	89,769 (9.2)	55,194 (5.6)	835,348 (85.2)	980,311
2002	95,006 (9.3)	58,080 (5.7)	867,482 (85.0)	1,020,568
2003	99,539 (9.7)	60,306 (5.9)	864,782 (84.4)	1,024,627
2004	101,302 (10.2)	61,030 (6.2)	829,340 (83.6)	991,672
2005	102,551 (10.6)	61,682 (6.4)	829,340 (83.6)	963,706
2006	103,886 (12.2)	61,339 (7.2)	686,988 (80.6)	852,213
For 2006				
Gender (m/f)	52.2/47.8	51.4/48.6	45.7/54.3	46.9/53.1
Age, mean [SD (range)]	27 [19 (0–96)]	29 [18 (0–96)]	44 [23 (0–111)]	40 [23 (0–111)]
0–17 years (%)	38,793 (37.3)	20,425 (33.3)	114,029 (16.6)	173,247 (20.3)
18–39 years (%)	37,601 (36.2)	23,375 (38.1)	186,551 (27.2)	247,527 (29.0)
40–59 years (%)	20,015 (19.3)	13,238 (21.6)	199,954 (29.1)	233,207 (27.4)
60+ years (%)	7,477 (7.2)	4,301 (7.0)	186,454 (27.1)	198,232 (23.3)
Income, mean [SD (range)]	10.7 [1.4 (7.6–22)]	10.6 [1.3 (7.6–22)]	11.4 [1.7 (7.6–22)]	11.3 [1.7 (7.6–22)]
Urbanization grade [*n* (%)]				
I and II	2,645 (2.5)	1,985 (3.2)	86,688 (12.6)	91,318 (10.7)
III	5,851 (5.6)	4,574 (7.5)	93,827 (13.7)	104,252 (12.2)
IV and V	95,390 (91.8)	54,780 (89.3)	506,472 (73.7)	656,642 (77.1)

Income = income × 1,000 in Euros per year (mean per person per postal code area). Urbanization grade as defined by Statistics Netherlands (CBS): *I* fewer than 500 addresses/km^2, *II* 500–1,000 addresses/km^2, *III* 1,000–1,500 addresses/km^2, *IV* 1,500–2,500 addresses/km^2, *V* over 2,500 addresses/km^2. *Native* denotes subjects with Dutch and Western nationalities (98.7%) and other non-Western nationalities (1.3%)

N number of insured, *m* male, *f* female

immigrant groups in the Netherlands, as compared to the native population. Prescription of psychotropic drugs was more prevalent in 2006 than in the previous years, except for prescriptions of anxiolytic drugs, which showed a decline. Although these trends were the same for all ethnic groups, several differences between the groups could be demonstrated. After adjustment for co-variables, both the Moroccan and Turkish populations had a higher risk of antidepressant and antipsychotic drug prescriptions than the native population in the Netherlands. Furthermore, anxiolytic drug prescriptions were relatively more common in the Turkish population. In contrast, the rate of ADHD medication prescriptions and lithium prescriptions among both the Moroccan and Turkish ethnic groups was notably lower than among the native Dutch population.

The results of this study partly contradict previous research, but confirm some of the other results. Our study confirmed higher depression rates among the elderly Moroccan and Turkish immigrants as demonstrated previously in a Belgian and a Dutch study [7, 23]. Although the risk of antipsychotic drug prescriptions among Moroccans was higher than in the native Dutch population, the risk was lower than expected according to the incidence rates among immigrants. On the contrary, the risk of antipsychotic drug prescriptions among the Turkish ethnic group was higher than expected, according to incidence rates among immigrants [3, 10, 13, 15].

The lower number of prescriptions of ADHD medication among the Turkish and Moroccans are comparable with the results demonstrated by Zwirs et al. [24, 25]. Their socio-cultural explanation was that there is a higher treatment threshold for behavioural problems in Turkish and Moroccan children than in the native population, as well as a lower sensitivity of their parents in detecting behavioural problems such as ADHD. The possible under-treatment of ADHD in immigrants poses questions. Is untreated ADHD in immigrant populations one of the explanations for behavioural problems of immigrant children and teenagers as seen in the Netherlands? Are the differences in ADHD medication prescriptions caused by health insurance policies, which reimburse only for short-acting methylphenidate, but not for ADHD medication with a long-acting profile?

This large population study will have prevented some of the selection bias that occurred in the previous studies on specific age or patient groups [3, 7, 10, 12–15, 21, 23–25]. The Agis database for example included enough data on the relatively small group of older adults (e.g. 60+): Turkish and Moroccan minority groups.

Other possible explanations for the risk differences in psychotropic drug prescriptions among Moroccan and

Table 2 Prevalence trends of psychotropic drug and psychotropic drug subgroup prescriptions, overall and within ethnic groups (%)

Year	2001	2002	2003	2004	2005	2006
N total	980,311	1,020,568	1,024,627	991,672	963,706	852,213
N Moroccan	89,769	95,006	99,539	101,302	102,551	103,886
N Turkish	55,194	58,080	60,306	61,030	61,682	61,339
N native	835,348	867,482	864,782	829,340	799,473	686,988
Psychotropic drugs	14.1	14.1	14.0	14.0	13.7	14.1
Moroccan	9.8	9.7	9.5	9.4	9.3	9.4
Turkish	13.2	13.1	12.6	12.4	12.0	12.6
Native	14.7	14.7	14.6	14.7	14.4	14.9
Antipsychotic drugs	1.6	1.7	1.9	2.0	2.1	2.4
Moroccan	1.6	1.6	1.7	1.8	1.9	2.1
Turkish	1.5	1.6	1.7	1.8	2.0	2.1
Native	1.6	1.8	1.9	2.1	2.1	2.5
Anxiolytic drugs	9.6	9.4	9.1	8.7	8.5	8.5
Moroccan	6.1	5.8	5.4	5.0	5.0	4.8
Turkish	8.7	8.4	7.7	7.2	6.9	7.1
Native	10.1	9.8	9.6	9.2	9.1	9.2
Antidepressant drugs	6.1	6.3	6.3	6.8	6.4	6.9
Moroccan	4.9	5.1	5.1	5.4	5.4	5.7
Turkish	7.1	7.3	7.3	7.7	7.4	8.0
Native	6.2	6.4	6.4	6.9	6.5	7.0
ADHD medication	0.18	0.20	0.24	0.26	0.29	0.32
Moroccan	0.09	0.09	0.11	0.13	0.16	0.15
Turkish	0.06	0.07	0.08	0.08	0.10	0.11
Native	0.20	0.22	0.26	0.29	0.33	0.36
Lithium	0.21	0.22	0.22	0.23	0.24	0.25
Moroccan	0.04	0.04	0.04	0.05	0.05	0.06
Turkish	0.06	0.06	0.05	0.07	0.09	0.09
Native	0.24	0.25	0.25	0.26	0.27	0.30

"Antipsychotic drugs" have ATC codes starting with N05A. "Anxiolytic drugs" have ATC codes starting with N05B. "Antidepressant drugs" have ATC codes starting with N06A, "ADHD medication" are methylphenidate and atomoxetine and "lithium" is ATC code N05AN01. Where an individual received more than one prescription in a year, the individual was represented only once that year. When the individual received prescriptions of more than one subgroup, the individual was represented in both subgroups. Such an individual was represented only once in the prevalence rate of the "psychotropic drugs" category

Turkish groups are: different occurrence rates of mental illnesses, different approaches by medical professionals and culturally defined coping strategies for stressors and mental illnesses [22]. The latter explanation is associated with the cultural conflict that arises from living between two cultures, which results in a higher exposure to stressors for the second-generation immigrants, such as a chronic experience of social defeat, discrimination and perceived discrimination, and lower social status [5, 11]. It has also been suggested that differences in substance abuse could cause higher schizophrenia rates [20]. The result of ageing of the first-generation immigrants will be a higher prevalence of chronic illnesses and lower physical well-being, causing higher rates of mental illnesses. Another explanation for differences in prescribed drug usage is a lower perceived need for care by Moroccan and Turkish ethnic groups in the Netherlands, which leads to less help-seeking behaviour and hence fewer prescriptions [4]. Finally, there is little systematic knowledge of professionals' approaches to the behaviour of different ethnic groups and their mental illnesses [19].

This study showed that controlling for age, gender, income and urbanization had a big influence on outcomes. Age was the most prominent factor. Because of the relatively recent immigration of the Turkish and Moroccan labourers at a working age (in the 1960s and 1970s of the twentieth century), the Moroccan and Turkish ethnic groups are younger of age than the native Dutch population. As the prevalences of the different psychiatric disorders are not equally distributed among all age groups, the importance of the age factor is demonstrated in this study

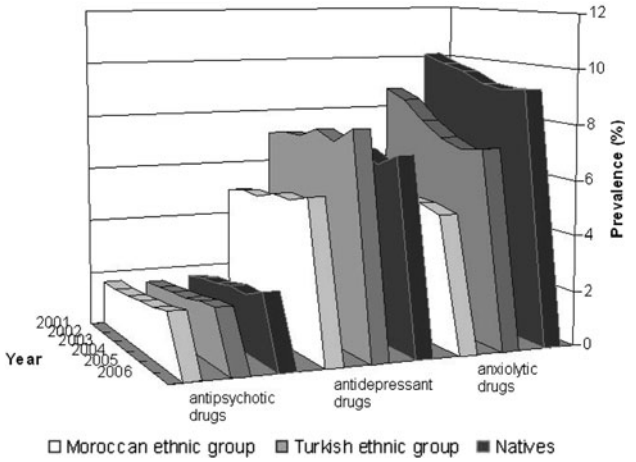

Fig. 1 Prevalence of psychotropic drug prescriptions and differences within ethnic groups. It shows the comparison among the major psychotropic drug groups

where after adjustment, the risk of antipsychotic and antidepressant drug prescriptions for Moroccan and Turkish patients shifted from a lower risk, than for the native Dutch population, to a higher one.

To assess the value of the present results, the limitations of the study need to be discussed. First, some prominent ethnic groups of immigrants with a Dutch nationality, from Surinam, the Netherlands Antilles and Aruba could not be evaluated. Selten et al. demonstrated that the incidence of schizophrenia in the Surinam and Netherlands Antillean population is two to five times higher than in the native Dutch population [14]. The high percentage of people from Surinam (2.9%, 331,890) and the Antilles (0.8%, 129,683) in 2006 [17], who were now included in the native Dutch group, could have led to an overestimation of the prevalence of drug prescriptions to this group.

Second, this study used psychotropic drug prescriptions as a proxy indicator for mental disorders. There might be a difference in the prescription of psychotropic drugs, by GPs and psychiatrists, for mental disorders, to different ethnic groups, such as the investigated different treatment threshold for ADHD [25]. Also, off-label prescriptions are common among all psychotropic drug groups, except for ADHD medication.

Third, data on income are based on the mean income of a neighbourhood. When the immigrant population is

Table 3 Risks of psychotropic drug and psychotropic drug subgroup prescriptions among different ethnic groups in 2006

Variable	Persons who received a prescription (%)	Crude OR	95%CI	Adjusted OR	95%CI
Psychotropic drugs					
Moroccan	9,801 (9.4)	0.60	0.58–0.61	1.01	0.98–1.03
Turkish	7,688 (12.5)	0.82	0.80–0.84	1.32	1.29–1.36
Native	102,294 (14.9)	1.0		1.0	
Antipsychotic drugs					
Moroccan	2,121 (2.0)	0.84	0.80–0.88	1.15	1.10–1.21
Turkish	1,270 (2.1)	0.85	0.80–0.90	1.12	1.05–1.18
Native	16,709 (2.4)	1.0		1.0	
Anxiolytic drugs					
Moroccan	4,966 (4.8)	0.50	0.48–0.51	0.88	0.85–0.91
Turkish	4,341 (7.1)	0.75	0.73–0.78	1.27	1.23–1.31
Native	63,119 (9.2)	1.0		1.0	
Antidepressant drugs					
Moroccan	5,935 (5.7)	0.80	0.78–0.83	1.37	1.33–1.41
Turkish	4,918 (8.0)	1.16	1.12–1.19	1.85	1.79–1.91
Native	48,219 (7.0)	1.0		1.0	
ADHD medication					
Moroccan	152 (0.15)	0.40	0.34–0.48	0.26	0.22–0.30
Turkish	70 (0.11)	0.31	0.25–0.40	0.21	0.16–0.27
Native	2,487 (0.36)	1.0		1.0	
Lithium					
Moroccan	62 (0.06)	0.20	0.16–0.26	0.23	0.17–0.29
Turkish	56 (0.09)	0.31	0.24–0.40	0.34	0.26–0.45
Native	2,033 (0.30)	1.0		1.0	

N Moroccan = 103,886, *N* Turkish = 61,339 and *N* native = 686,988. Adjusting factors were: gender, age, income and urbanization grade

clustered on the lower end of the income scale, the effect of this important risk factor could be underestimated. It would mean that the risk differences between the ethnic groups might be less profound.

Fourth, the data used here are based on insured persons; uninsured persons were not included in this study. Inhabitants of the Netherlands are obliged by law to get medical insurance; however, 1.0% of the population is still uninsured. First-generation immigrants are uninsured more often than other inhabitants of the Netherlands. Analyses by Statistics Netherlands showed that 1.3% of Moroccan immigrants and 1.4% of Turkish immigrants were uninsured, in contrast to 0.4% of the native Dutch population [18]. It is unclear whether the uninsured Turkish and Moroccan immigrants had a higher or lower risk of getting prescribed psychotropic drugs than others; hence, one cannot say whether the present results are an underestimation or overestimation.

Fifth, surnames were used to identify the different ethnic groups. This is not an infallible method, as marriages of mixed ethnicity may bias the results, and immigrants might change their surnames to "integrate" "better." However, mixed marriages are exceptions in the Netherlands. In 2003, 85.2% of the married Turkish women in the Netherlands had married Turkish men and 75.5% of married Moroccan women had married Moroccan men. 76.2% of the Turkish men married Turkish women and 73.5% of the Moroccan men married Moroccan women [16]. In addition, in the Netherlands it is not common for the Turkish and Moroccan ethnic groups to change their surnames to fit in better.

The results of this study imply that, since the proportion of Turks and Moroccans in the Netherlands is still growing, mental health care must be prepared for a shift in prevalence rates of the different mental disorders. Moroccan immigration did not only take place in the Netherlands, but also in large numbers in Belgium, Germany, France, Denmark, Italy, Spain, the UK and Norway. Turkish immigration was also high in Germany, Belgium, Austria, France and Sweden. These countries will probably encounter the same problems in mental health care that are occurring in the Netherlands.

In this study, anti-dementia drugs were not included. Differences in dementia incidence rates and associated health-care consumption in the Turkish and Moroccan immigrant groups have not been investigated yet and may be an interesting subject for additional research.

Further research is needed to clarify if patients of different ethnic backgrounds with the same symptoms receive similar diagnosis and adequate treatment. If inequalities are found, this would point to a need for extra education and specialized mental health-care programs for ethnic minorities. To develop effective prevention and treatment programmes, further research seems warranted, especially on differences in genetic risk factors and exposure to environmental risk factors among the different ethnic groups.

Conclusions

Turkish and Moroccan first- and second-generation immigrants have an increased risk of antidepressant and antipsychotic drug prescriptions and a decreased risk of ADHD medication prescriptions and Lithium prescriptions, as compared to the native Dutch population in the Netherlands. With the increasing proportion of Turkish and Moroccan first-, second- and third-generation immigrants in the Netherlands, these differences will become more visible in mental health care in the near future. With an increase in the number of immigrants, the risk prevalence rates are also expected to change over time. To provide optimal care and be able to prevent mental health problems, the causes of differences in mental health-care consumption between immigrant populations and the native Dutch population require further investigation. Also, the causes of differences between ADHD medication prescriptions among immigrants, their children and the native population need to be explored further. Such research should make clear if the threshold for treating children with ADHD must be lowered for the Turkish and Moroccan populations to provide equal care and equal chances for these children. GPs and psychiatrists may benefit from more awareness of the differences in mental health among the different minority groups, to improve their practice.

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